

DRAFT

RESTORATION PLAN

Supporting “SCARC”: Shorebird Conservation Acreage via drainage water Runoff
Control

And Potential Property Acquisition with the Champaign County Forest Preserve
District

Vermilion River Watershed
Champaign and Vermilion Counties, Illinois

for the
Hegeler Zinc--Lyondell Basell Companies
NRDA Settlement

Prepared by:

Illinois Natural Resources Trustees:

Illinois Department of Natural Resources and
Illinois Environmental Protection Agency

October, 2016

FACT SHEET

DRAFT RESTORATION PLAN for the former Hegeler Zinc smelting facility's releases of hazardous substances into the environment causing injury to surrounding natural resources in Vermilion County, Illinois.

LEAD AGENCY FOR THE FINAL RESTORATION PLAN:
Illinois Department of Natural Resources

COOPERATING AGENCIES:
Illinois Environmental Protection Agency

ABSTRACT:
This draft Restoration Plan has been prepared by the state Natural Resource Trustees to address restoration of natural resources and resource services injured as a result of the Hegeler Zinc's Danville facility release of hazardous substances, including metals, into the surrounding environment, impacting aquatic and terrestrial resources. The Restoration Plan also seeks to inform the public and receive public comment on the proposed actions.

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COPIES:
Copies of the draft RP are available at the address listed above or available for download at
<http://www.dnr.illinois.gov/programs/NRDA/Pages/HegelerZincDanville.aspx>

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List of Acronyms and Abbreviations

CAS	Contaminant Assessment Section
CCFPD	Champaign County Forest Preserve District
CERCLA	Comprehensive Environmental Response, Compensation & Liability Act
CERP	Comprehensive Environmental Review Process
CFR	Code of Federal Regulations
CWA	Clean Water Act
DWM	Drainage Water Management
HUC	Hydrologic Unit Code
HZD	Hegeler Zinc Danville
IAGO	Illinois Attorney General's Office
IDNR	Illinois Department of Natural Resources
IEPA	Illinois Environmental Protection Agency
NCP	National Contingency Plan
NRCS	Natural Resource Conservation Service
NRDA	Natural Resource Damage Assessment
OPA	Oil Pollution Act
RP	Restoration Plan
SCARC	Shorebird Conservation Acreage via drainage water Runoff Control
Trustees	Illinois Natural Resource Trustees
U of I	University of Illinois
UPD	Urbana Park District
USEPA	United States Environmental Protection Agency
USFWS	United States Fish & Wildlife Service
VCCD	Vermilion County Conservation District

I. Introduction

Releases of hazardous substances and oil into our environment can pose a threat to human health and natural resources. Natural resources are plants, animals, land, air, water, groundwater, drinking water supplies, and other similar resources. When the public's natural resources are injured by an unpermitted release of hazardous substances or oil, federal law provides a mechanism, Natural Resource Damage Assessment (NRDA) that authorizes Natural Resource Trustees to seek compensation for the public for injuries to natural resources. Illinois' Natural Resource Trustees (Trustees) include Illinois Environmental Protection Agency (IEPA) and Illinois Department of Natural Resources (IDNR). The Illinois Natural Resources Coordinating Council oversees restoration efforts and includes the Trustees and their legal representative, the Illinois Attorney General's Office (IAGO). This plan was developed by IDNR Contaminant Assessment Section (CAS) Staff who administer the NRDA program for Illinois.

In 2009, Millennium Petrochemicals¹ filed bankruptcy. In an effort to seek compensation for the injuries described within, the Trustees represented by the IAGO, filed a claim for natural resource damages in the bankruptcy proceeding. Lyondell Chemical Company, et al., provided compensation to the public based on determination that natural resources were injured resulting from releases into the environment of hazardous substances, including but not limited to, metals, such as zinc, arsenic, cadmium, and lead from a former zinc smelting facility at Hegeler, Illinois, that was originally known as Hegeler Zinc (Figure 1). The settlement, entered in the US District Court on March 12, 2010, provided approximately \$1.5 million to be used for natural resource restoration. In 2013 two plans were drafted, a Work Plan and a Restoration Notice, describing restoration activities to be carried out with a portion of these funds. In 2015 \$1 million was swept from the Natural Resource Restoration Trust Fund, where this money is stored. As a result of the sweep of funds the Trustees anticipate completing less restoration than otherwise would have been pursued. In 2016 a second Restoration Notice was drafted describing additional restoration activities the funds would be used to support.

This draft Trustee Restoration Plan (RP) describes for the general public and interested parties the incident including the release, and injuries to natural resources, description of the legal process and the proposal to utilize the remaining funds to restore natural resources. Primary restoration will be achieved by the United States Environmental Protection Agency's (USEPA) cleanup of the site following their remedial investigation process. Thus the projects described herein address the goals and objectives in compensating for interim losses (discussed further in Section V).

II. Incident Description

The Former Hegeler Zinc Facility (the Site) in Hegeler, Illinois, operated from 1906 to 1954. This ~100-acre facility produced zinc slab and rolled zinc products, as well as sulfuric acid, resulting in slag waste. The large amounts of slag containing unburned residues and metals were stored in piles onsite. Based on the work of the USEPA, the site was listed on the National Priorities List, or Superfund, in 2005. After which time, USEPA took the lead of a remedial investigation which consisted of soil, sediment, and groundwater sampling on and off site. Results showed that contaminants (mostly from various metals) not only affected the smelting site but nearby residences and streams, notably Grape Creek, which is hydraulically connected to the Vermilion River. In 2009 one of the site's responsible parties, Millennium Petrochemicals, filed bankruptcy along with other Lyondell entities. In response, IDNR and IEPA with legal representation by IAGO prepared an NRDA bankruptcy claim based on injuries to groundwater, surface water (including an Unnamed Tributary and Grape Creek), aquatic resources, and terrestrial resources (including grassland habitat). As a result of this claim, the

¹ Millennium Petrochemicals is the final corporate successor to the historical chain of operations, and is owned by Lyondell Basell Companies.

State Trustees became parties to a Consent Decree approved by the bankruptcy court between the Lyondell entities, the United States of America, and a number of other states. The State Trustees received a settlement claim, thus the Trustees are identifying restoration projects to fund to preserve and enhance ecological features in the region in order to make the public whole for injuries to natural resources as a result of releases of hazardous substances.

III. Public Participation

Public review of the draft RP is an integral component of the restoration planning process. Through the public review process, the Trustees seek public comment on the approaches used to define and assess natural resource injuries and the projects being proposed to restore injured natural resources or replace services provided by those resources.

Public review of the draft RP is consistent with all federal and state laws and regulations that apply to the NRDA process (Appendix I). Following public notice, the draft RP becomes available to the public for a 30-day comment period. Written comments received during the public comment period are considered by the Trustees in preparing the final RP.

Public comments and suggestions on the proposed restoration alternative(s) is an important part of the public participation process. Anyone who reviews the draft RP is encouraged to evaluate and comment on any part of the draft RP, including descriptions of the affected areas, the proposed restoration projects, and/or the restoration selection process. The public is further encouraged to evaluate and comment on the feasibility of the proposed restoration projects themselves. If additional restoration alternatives are proposed by the public, describe how the additional restoration alternatives meet the evaluation criteria contained in Section VI below.

An additional opportunity for public review will be provided in the event that significant changes are made to this draft RP. Comments on this draft RP should be sent via email or U.S. mail by November 14th to:

Email: Jessica.Riney@Illinois.gov (note put “SCARC & CCFPD Projects RP” in the subject heading)

US Mail:

**Illinois Department of Natural Resources
Attn: Jessica Riney, SCARC & CCFPD Projects RP
One Natural Resources Way
Springfield, IL 62702-1271**

IV. Restoration Planning

The Bankruptcy Claim entered in March 2010, provided funds for the Trustees to restore, enhance, and/or preserve similar resources as to those injured. Target community types include but are not limited to, grassland and stream habitat. At this time funds are being recommended to be spent somewhere off site as USEPA continues to lead the remedial investigation of the Superfund site. Preference will be given to projects in the same general area/watershed of the injury (Hydrologic Unity Code (HUC) 8 Watershed = Vermilion (Wabash Basin); Figure 2).

The State recognizes the need to implement time critical activities to provide the most benefit to regional resources. Three previous documents have been drafted describing time-critical activities the Trustees decided to fund to provide the most benefit to regional resources. A work plan was drafted that outlined the use of \$16,173 of the Hegeler Zinc Danville (HZD) NRDA funds for a dam removal monitoring effort, which is being

used in cooperation with a federally matched state wildlife grant (IDNR 2013a). The monitoring effort includes sampling fish, mussels, and water quality pre and post dam removal as well as collecting sediment transport data in conjunction with the removal activities. The proposed dam removals are located in Danville Illinois.

A restoration notice was also drafted describing the state NRDA program's assistance with an endangered mussel translocation project (IDNR 2013b). The goal of this project is to increase the populations of two endangered Illinois mussel species, the northern riffleshell and clubshell, through translocation from the Allegheny River system in Pennsylvania to the Vermilion River basin (Wabash River drainage) in Illinois. Long term monitoring is an essential component to determine whether the translocation is a success. Previous translocations (2010 and 2012) showed positive results. Additional funds were needed to continue the project, therefore, approximately \$80,000 in NRDA HZD restoration funds are being used for the 2013-2018 translocation efforts. Since 2010 a total of five translocations have taken place with a current total of 3,737 Northern Riffleshells and 4,123 Clubshells placed in eight sites in the Vermilion River basin. Additional translocations are expected thru 2018.

A second restoration notice was drafted describing the state NRDA program's assistance with two additional time-critical projects (IDNR 2016). NRDA HZD funds are assisting the Vermilion County Conservation District (VCCD) with a detention basin repair at a conservation site near the HZD site, Forest Glen Nature Preserve. Significant erosion is occurring in the emergency spillway, which could compromise the stability of the structure. \$10,000 in IDNR HZD funds are being used to assist in the repair, which is important to the overall water quality of the Vermilion River. The Forest Glen detention basin contributes to water quality protection of the Vermilion River by capturing sediment and nutrient runoff from surrounding agricultural fields (an approximate 600 acre drainage basin). Furthermore, in a pool downstream from the spillway, before water enters the Vermilion River, there is a known fish population of Mottled Sculpin, whose distribution is oftentimes limited by physical factors such as temperature (requires cool water streams). The Mottled Sculpin is categorized as a species in greatest need of conservation.

Per the second draft restoration notice, NRDA HZD funds are also being utilized to support another Illinois NRDA project in the Vermilion River Watershed: an instream and floodplain restoration project along the Saline Branch in Crystal Lake Park, Urbana IL. This project has an approved restoration plan (IDNR 2014). There is \$180,000 available for the Saline Branch project per the U of I/Sanitary District/CEDA Inc. Settlement. Multiple matching fund options were pursued for the Saline Branch project but the CAS was unsuccessful in securing additional funds. Therefore, to complete the project as proposed: 3 instream riffle-pool structures and 2 rain gardens with an educational and monitoring component, an additional \$85,000 is needed. Construction elements cannot be sacrificed for other project components such as design and monitoring, for risk of no benefit to stream resources. Utilizing the HZD restoration funds to assist in this restoration effort has been justified because the Saline branch project is in the same watershed as the HZD area of injury (the Vermilion River Watershed) and similar resources are being addressed (instream and floodplain habitat restoration). Pre/post restoration monitoring will be conducted to observe the biological and geomorphological changes over time, and ensure project success. In addition, an existing educational curriculum at the Urbana Park District (UPD) will be enhanced, to include information to the public regarding the benefits of restoration, such as the project implemented at the Crystal Lake Park site. The Saline Branch project includes multiple partners including the IDNR, UPD, United States Geological Survey, and University of Illinois whom provide valuable expert advice. The involvement of these groups also illustrates the community's investment into this environmentally beneficial effort. The 2014 Restoration Plan [Ref: Final Restoration Plan Phase I: Stream & Floodplain Restoration along the Saline Branch Champaign County, Illinois] will serve as the basis for the Illinois NRDA program's assistance.

The workplan and restoration notices along with progress reports are made available to the public via the IDNR NRDA Program's website: <http://www.dnr.illinois.gov/programs/NRDA/Pages/HegelerZincDanville.aspx>

Beyond the four projects previously described, a restoration planning effort has been ongoing for the Vermilion River Watershed settlement. The Trustees solicited restoration project alternatives from multiple entities (Tables 1 and 3). Such solicitation involved entities including, but not limited to: field biologists within IDNR's Division of Fisheries, Division of Natural Heritage, Division of Wildlife, Land Management, Nature Preserves Commission, and Watershed Protection Program. Outside of the department many other groups have been reached out to, such as area Natural Resource Conservation Service & Soil and Water Conservation District staff, the Illinois Environmental Protection Agency, the United States Fish and Wildlife, the Champaign County Forest Preserve District, and local watershed groups. To be eligible for the Natural Resource Restoration Trust funds, the Trustees requested that the projects be in the general vicinity of where the incident occurred, preferably in the same watershed (HUC8²).

The following information describes the process of identifying and selecting restoration alternatives. For each possible restoration alternative developed, the Trustees identify an action to be taken singly or in combination by the Trustee agency to achieve the restoration, rehabilitation, replacement, and/or acquisition of equivalent natural resources and the services those resources provide. The Trustee shall then select the preferred alternative(s). The possible alternatives considered by the Trustee that return the injured resources and their lost services to baseline level could range from intensive action to natural recovery with minimal management actions.

The Trustees utilized evaluation criteria (See Section VI) and restoration expert opinions to evaluate all potential restoration project alternatives. Within this document the Trustees state their preferred alternative(s) and explain the basis for their selection or rejection of other alternatives (Tables 1 and 3). These Trustee determinations may be modified based on public input and comment.

V. Restoration Strategy

The goal of the NRDA process is restoration of the injured natural resources and compensation for the interim lost uses of those resources. Restoration actions can be summarized by defining two terms: primary and compensatory. Primary restoration is action taken to return the injured natural resources and services to baseline on an accelerated time frame by directly restoring or replacing the resource or service. As one form of primary restoration, the Trustees consider natural recovery of the resource. Trustees may select natural recovery under three conditions: 1) if feasible; 2) if cost-effective primary restoration is not available; or 3) if injured resources will recover quickly to baseline without human intervention. Primary restoration alternatives can range from natural recovery, to actions that prevent interference with natural recovery, to more intensive actions expected to return injured natural resources and services to baseline faster or with greater certainty than natural recovery alone.

Compensatory restoration includes actions taken to compensate for the interim losses of natural resources and/or services pending recovery. The type and scale of compensatory restoration depends on the nature of the primary restoration action and the level and rate of recovery of the injured natural resources and/or services. When identifying compensatory restoration alternatives, Illinois Trustees first consider actions that provide services of the same type and quality and that are of comparable value as those lost. If a reasonable range of compensatory actions of the same type and quality and comparable value cannot be found, Trustees then

² The USGS Hydrologic Unit Code is a sequence of numbers or letters that identify a hydrological feature, such as a drainage basin. The HUC 8 watershed boundary has been selected by the Trustees as an appropriate watershed scale for restoration planning efforts.

consider other compensatory restoration actions that will provide services of at least comparable type and quality as those lost.

VI. Evaluation Criteria

When selecting the alternative to pursue, the Trustees considered the following factors listed under the Code of Federal Regulations (CFR) 43 Subpart E 11.82 Damage Determination phase³ — alternatives for restoration, rehabilitation, replacement, and/or acquisition of equivalent resources (Appendix I):

- (1) Technical feasibility.
- (2) The relationship of the expected costs of the proposed actions to the expected benefits from the restoration, rehabilitation, replacement, and/or acquisition of equivalent resources.
- (3) Cost-effectiveness.
- (4) The results of any actual or planned response actions.
- (5) Potential for additional injury resulting from the proposed actions, including long-term and indirect impacts, to the injured resources or other resources.
- (6) The natural recovery period determined in 43 CFR sect. 11.73(a)(1).
- (7) Ability of the resources to recover with or without alternative actions.
- (8) Potential effects of the action on human health and safety.
- (9) Consistency with relevant Federal, State, and tribal policies.
- (10) Compliance with applicable Federal, State, and tribal laws.

Table 2 lists and further describes the factors provided above, as well as other factors utilized by the Illinois Trustees. These criteria were utilized to screen against the project alternatives (Tables 1 and 3) and preferred alternatives were selected.

VII. Proposed Compensatory Restoration Alternatives

Primary restoration will be achieved through USEPA remedial cleanup of the site. Therefore, the focus of this restoration plan is on the proposed compensatory restoration actions.

A list of potential projects were submitted and reviewed by CAS staff (Tables 1 and 3). The preferred projects for HZD funding is to assist project partners in an effort to provide Shorebird Conservation Acreage via drainage water Runoff Control (SCARC) and to potentially acquire property with the Champaign County Forest Preserve District (CCFPD), to restore/sustain habitat for natural resources similar to those lost or injured as a result of the superfund site. Specifically, IDNR will coordinate with University of Illinois (UofI) staff for the

³ Regulations for assessing natural resource damages resulting from hazardous substance releases under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended (CERCLA), 42 U.S.C. 9601 et seq., and the Federal Water Pollution Control Act (Clean Water Act), 33 U.S.C. 1321 et seq., are codified at 43 CFR part 11.

SCARC project to provide terrestrial habitat with an emphasis on habitat for migratory waterfowl, and help improve water quality, which also improves aquatic resources in the Vermilion River watershed. The CCFPD potential property acquisition will also provide terrestrial habitat and help improve water resources by land use changes along the Salt Fork of the Vermilion River. Overall, these projects will provide far reaching benefits to the terrestrial and aquatic ecosystem as a whole. Additionally, these are cost effective efforts. For the SCARC program, funds will be added to an existing program to increase the natural resource benefits in the Vermilion River watershed. For the CCFPD project, HZD NRDA funds will be combined with other funding sources to acquire the property. Long term management and oversight is being provided by the project partners.

Details of the SCARC and CCFPD projects are provided below.

SHOREBIRD CONSERVATION ACREAGE via drainage water RUNOFF CONTROL (SCARC)

Contained herein is a summary of information provided by staff from the U of I as well as the United States Fish and Wildlife Service (USFWS) regarding drainage water management and the SCARC program.

Central Illinois has been almost completely converted into row-crop agriculture through the proliferation of subsurface drainage systems, causing numerous natural resource and conservation problems. The region is one the largest contributors of nitrogen into the Mississippi River basin (David et al. 2010) and millions of acres wetland habitat has been lost, posing a serious threat to migrant and breeding shorebirds and waterfowl in the region. One solution to these problems would be the purchase and restoration of agricultural land back to more natural and native wetland habitat. While there are ongoing restoration projects in the region, this approach is cost prohibitive on meaningful spatial scales. Furthermore, most of the region is highly productive agricultural land that provides income for thousands of people. Consequently, novel solutions are needed that can address multiple natural resource concerns while providing benefits to the producer that will facilitate its implementation. Drainage Water Management (DWM) represents an excellent opportunity for accomplishing those goals in a relatively cost effective manner.

DWM has the potential to solve numerous conservation problems, while providing benefits to agricultural producers. DWM is the practice of managing the elevation of the water table and the timing of discharge from surface and subsurface agricultural drainage systems (Gilliam et al. 1979, Skaggs and Youssef 2008, and Cooke et al. 2008). The benefits of DWM to water quality are extensive (e.g., Lalonde et al., 1996, Fausey et al., 2004 and Drury et al., 2009) and it is a proven technique for addressing the enormous issue of excess nutrients in streams, rivers, and ultimately the Gulf of Mexico (USEPA 2007). DWM also has the potential to help producers improve crop yields by giving them the ability to decide when drainage is needed and when water can be maintained. For instance, the water table can be raised during the cropping season, thereby supplying water to the capillary root zone of the crop (Figure 3). Finally, DWM may be able provide benefits to wildlife through the creation of ephemeral wetlands that can be used as stopover sites for numerous shorebird and waterfowl species (Figure 3). The SCARC program represents a multi-agency approach that will demonstrate how DWM can be used to provide habitat for wildlife, specifically migrating shorebirds and waterfowl, while helping to reduce nutrient runoff and increase crop production.

The majority of water runoff from Midwestern agricultural fields occurs when fields are fallow from late winter to early spring (Royer et al. 2006). This period coincides with the movement of millions of migrating shorebirds and waterfowl through the region. Blocking drainage tile during this short period would create habitat for migrating species (Stodola et al. 2014), greatly reduce the amount of nitrate entering surface waters (e.g., Kalita and Kanwar 1993, Drury et al. 1996), while having little influence on crop production. DWM can be used to accomplish these goals by controlling the timing and depth of water levels in agricultural fields. Partners in the SCARC program will develop water management protocols dictating targeted water levels for specific time periods. Monitoring will determine the success of DWM in providing habitat to shorebirds and

waterfowl, information that will be used to increase the efficiency and reliability of technical assistance in the planning and implementation stage of DWM.

The SCARC program will specifically target fields that provide valuable conservation habitat for migrating shorebirds and waterfowl. One species in particular, the American Golden-Plover, will act as a flagship species for identifying and monitoring fields for the benefits of DWM. Golden-plovers are a species of conservation concern with a global population estimated at less than 200,000 individuals (Birdlife International 2008, Johnson and Connors 2010). Their population has been declining, which may be attributable to the loss suitable stopover habitat during migration (Skagen 2006, Skagen and Adams 2010). However, large congregations continue to stop over in central Illinois each spring (Braile 1999, Johnson and Connors 2010), making the golden-plover an excellent focus of conservation efforts. In addition, recent research has indicated the species has an overwhelming preference to occupy wet fields during their stopover in central Illinois, presumably to increase fat loads before migrating the additional 3000km to the Arctic (Stodola et al. 2014). Consequently, DWM holds the potential for creating temporary habitat for this, and other species, of conservation concern.

Supporting the SCARC program has the potential to greatly improve habitat conditions for migrating shorebirds and waterfowl, thereby meeting the goals of state and regional wildlife plans, while helping the Natural Resource Conservation Service (NRCS) reach its objectives of expanding its DWM program. A prominent goal in state and regional conservation plans is the increase in ephemeral wetland habitat. For instance, Action 2 in the wetlands campaign⁴ from the Illinois State Wildlife Action plan calls for the development and management of ephemeral wetland habitat. Additionally, the primary conservation goal of Upper Mississippi Valley/Great Lakes Regional Shorebird Conservation Plan is the availability of shorebird foraging sites by restoring and enhancing a diversity of habitat types (Russel et al. 2016). The use and proliferation of DWM can be used to help address habitat availability. Consequently, the SCARC program is value-added, helping to address state and regional conservation goals while helping promote the expansion of DWM into a critical conservation area.

Researchers estimate that each field enrolled in the SCARC program will provide an average of 3 acres of flooded or saturated soil under normal precipitation conditions and an average of 25 acres under DWM control. Estimates of field saturation will be determined using DWM installation plans and precipitation conditions based on the average precipitation recorded during February through April in each county over the past 30 years. Producers in the SCARC program will be expected to maintain the level of the water table at or above the soil surface during much of the critical migratory period. The specific dates for maintaining water in a field will vary year to year depending on precipitation and migration phenology, but will generally encompass late February to mid to late April, thereby creating critical ephemeral habitat while still being compatible with current agricultural practices.

The Trustees recommend allocating \$122,000 in HZD NRDA funds for implementation of the SCARC program on approximately 9 properties throughout the Vermilion River watershed, over a 5 year timeframe (Figure 2).

CHAMPAIGN COUNTY FOREST PRESERVE DISTRICT POTENTIAL PROPERTY ACQUISITION

As previously mentioned, one solution to Central Illinois' natural resource and conservation problems would be the purchase and reversion of agricultural land back to more natural and native wetland habitat. One such attempt in the region is described below.

The second restoration project the Trustees recommend pursuing is a potential Property Acquisition along the Salt Fork for long term habitat protection and management (Figure 2). According to the Watershed Implementation Plan for the Upper Salt Fork of the Vermilion River (Salt Fork Steering Committee 2007) and

⁴ <https://www.dnr.illinois.gov/conservation/IWAP/Pages/Wetlands.aspx> - accessed 8/30/2016.

the Homer Lake Watershed TMDL Report (IEPA 2006), much of the Salt Fork does not support aquatic life due to nitrogen, phosphorus, and suspended solids (Figure 4). Potential sources of pollutants include row crop and other agriculture, urban and residential runoff, and municipal point sources (Figure 4). One of the water quality priorities identified by the Salt Fork Steering Committee (2007) was reduction of inputs of nutrients and sediment throughout the watershed. As evidenced by the Conservation Reserve Program, property set aside (out of crop production) helps conserve natural resources and improves water quality. Successful practices include riparian buffers and shallow water areas, which traps and filters sediment including pollutants bound to sediment such as Phosphorus and some pesticides; if the area is restored for various vegetation the roots can uptake nutrients, such as dissolved forms of Nitrogen and Phosphorus; furthermore, tree buffers along streams provide shading, which improves dissolved oxygen levels in streams (Salt Fork Steering Committee 2007).

CAS staff will coordinate with CCFPD staff and other partners to identify sites that would be ideal for potential property acquisition for long term protection and eventual habitat restoration. Additional partnerships and grant funding will be used to help leverage IDNR funds.

If willing landowners cannot be found and/or not enough funds are available to purchase property a backup restoration option would be to provide HZD NRDA funds to CCFPD to implement habitat restoration projects at Homer Lake Forest Preserve and satellite properties in Champaign County (Figure 2). Such projects could include:

Salt Fork River Corridor Habitat Improvement: Removal of invasive, non-native species (primarily bush honeysuckle), which allows native plants the ability to grow and thrive. Native plants have deep root systems that store water and hold soil in place more effectively.

Forested Ephemeral Wetland Creation: Create a wetland with a berm and water control structure to hold water drained from agricultural land on site longer, resulting in less sediment and nutrient deposits into the river.

Terrestrial Native Ecosystem Restoration: Conversion of old-field to native prairie and wetland to improve available wildlife habitat, increase soil health, and increase water infiltration capability.

The Trustees recommend allocating \$171,000 in HZD NRDA funds to assist in a potential property acquisition along the Salt Fork; if purchasing such property is found not feasible funds will be utilized for habitat restoration at the Homer Lake Forest Preserve and satellite properties in Champaign County (Figure 2).

VIII. Rationale for Preferred Restoration Alternative

The preferred restoration projects are expected to benefit various natural resources and services associated with natural communities through conservation and restoration (see CERCLA criteria 2, Section VI). The projects are expected to satisfactorily compensate for losses sustained by the incidents and benefit public health and safety (see CERCLA criteria 1, 8, Section VI). The Trustees considered that the cost to carry out the projects was clearly feasible given the settlement claim (see CERCLA 2, 3, Section VI). Further primary restoration will be achieved through USEPA's remedial actions and natural recovery, thus the project address the goals and objectives in compensating for interim losses (see CERCLA criteria 4-7, 9-10, Section VI). For these reasons and others identified in the attached restoration matrix (Table 3), the Trustees believe these projects will be suitable to use for compensatory restoration. Post monitoring of the projects will be done to increase the likelihood of a successful restoration effort (see CERCLA criteria 1, Section VI).

IX. Proposed Action

The Illinois Trustee Council (IDNR, IEPA and AGO) propose that the subject settlement monies be allocated to fund the proposed restoration projects. The Contaminant Assessment Section staff (within IDNR) will work in close coordination with restoration experts to follow all IDNR policies and procedures to ensure the successful operation of the restoration efforts in the Vermilion River Watershed.

X. Surveillance and Monitoring

An aspect of the SCARC program (paid for by other contributing partners) is monitoring the water quality benefits and additional habitat improvement for migratory waterfowl. This information will be beneficial in documenting project success or need for adaptive management. Additionally, CAS will coordinate with the CCFPD regarding appropriate monitoring strategies with the potential property acquisition or Homer Lake Forest Preserve habitat restoration projects. IDNR CAS staff will expect reporting from UofI and CCFPD to make sure the projects are completed as agreed.

XI. Fiscal Procedures

Restoration funds for the HZD settlement totaled \$1,516,173.

Funding Breakdown:

Total available for restoration = \$1,516,173

Dam Removal Monitoring	\$16,173
Mussel Reintroduction Project	\$80,000
Saline Branch Restoration Assistance	\$85,000
Forest Glen Detention Basin Repair Assistance	\$10,000
Sweep	\$1,000,000
Remaining restoration dollars available	\$325,000

Remaining restoration dollars available = \$325,000

Assist with the SCARC program by funding sites in the Vermilion River Watershed	\$122,000
Assist CCFPD in a potential property acquisition or provide funds for habitat restoration at Homer Lake Forest Preserve	\$171,000
Contingency funds	\$32,000

Out of the remaining HZD restoration dollars available, it is the intention of IDNR to release \$122,000 funds for assistance in the SCARC project and \$171,000 to CCFPD in calendar year 2016-2017. IDNR will oversee all restoration activities. The remaining Natural Resource Restoration Funds for the HZD settlement (\$32,000) will be utilized as contingency for the abovementioned projects, or to fund another project in the future. The IDNR Springfield headquarters will handle all fiscal transactions. All billings with supporting documentation shall be submitted to the IDNR Springfield Office for review and payment. IDNR fiscal agents will be responsible for the approval and payment of all expenses, obligations and contracts in accordance with the State of Illinois fiscal and procurement procedures.

XII. Coordination with other Programs, Plans, and Regulatory Authorities

The preferred restoration projects will be implemented as a joint effort among partners, including but not limited to, the IDNR, U of I, and CCFPD. The partners will provide the technical expertise and finances, and work together to implement drainage water management practices on private land in the Vermilion River watershed, as well as potentially acquire property for future onsite restoration and long term management. If the property acquisition is not feasible, a backup option for the \$171,000 in restoration funds will be to conduct ecological restoration at Homer Lake Forest Preserve. These restoration projects will comply with all federal, state, and local laws, regulations and policies.

Compliance

IDNR's Comprehensive Environmental Review Process (CERP) will be applied. CERP is a State of Illinois process that ensures the project meets the appropriate compliance outlined under this Restoration Plan. All permits and approvals, if required, will be secured prior to the implementation of the projects.

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XIV. Figures and Tables



Figure 1. Photos of the Hegeler Zinc Facility in Vermilion County, IL. Left: an aerial photo of the facility in 1940 (USEPA presentation). Right: a zinc slag pile, residual waste of facility operations (picture taken by CAS staff).

Vermilion River Watershed Projects as of August 2016

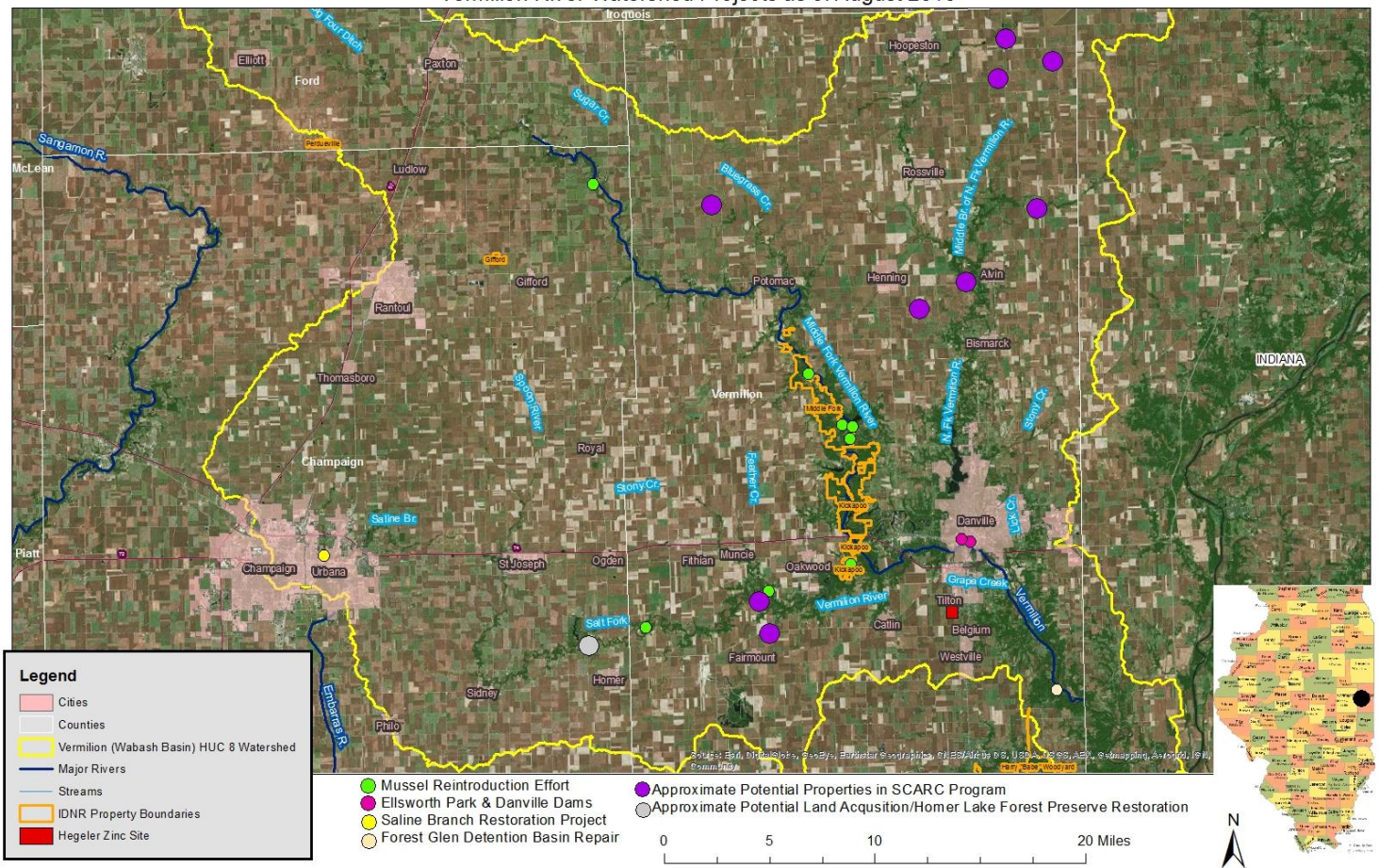


Figure 2. The Hegeler Zinc Facility in Vermilion County, IL and surrounding area, including: the mussel reintroduction project area, the Dam Removal locations, the Saline Branch project site, the Forest Glen detention basin location, and the potential locations of the additional proposed actions for funding. This map was obtained through IDNR Geographic Information System (GIS).

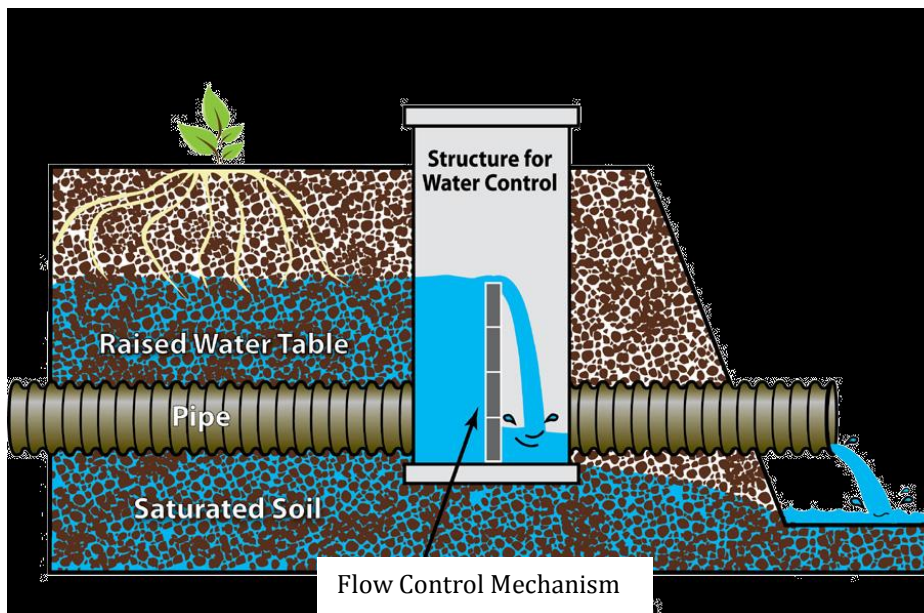


Figure 3. Water control structure and habitat photos of drainage water management and the SCARC program, provided by University of Illinois PowerPoint presentation.

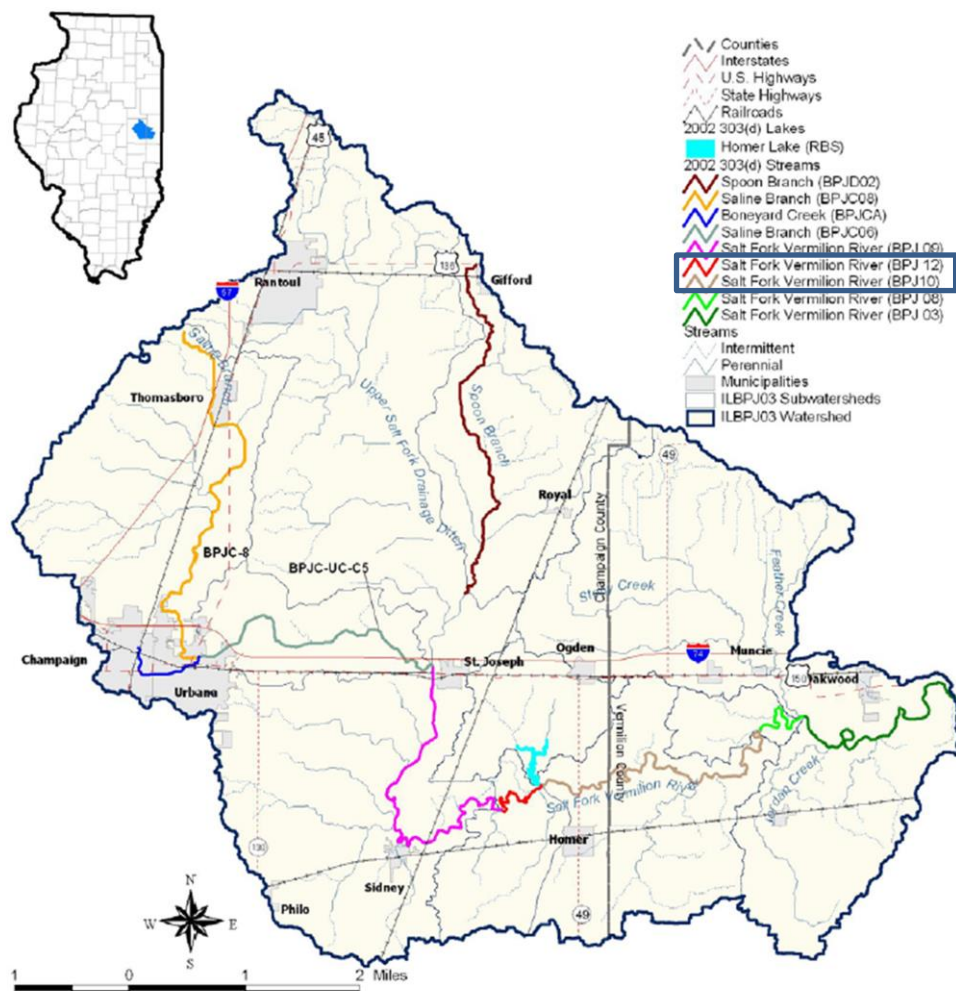


Figure 1-1. Location of Salt Fork Vermilion River watershed.

Water Body (IEPA Identifier)	Uses Listed as Impaired	Causes	Sources
Homer Lake (RBO – 65 acres)	Aesthetic quality	Total suspended solids excessive algal growth Phosphorus	Crop production Shore area modifications Forest/grassland/park land
Boneyard Cr. (BPJCA – 3.2 miles)	Aquatic life	Habitat alteration DDT Hexachlorobenzene PCBs	Urban runoff Hydrologic/habitat modification Contaminated sediments
Saline Branch (BPJC08 – 15.5 miles, upstream of Boneyard, and BPJC06 – 10.3 miles, downstream of Boneyard)	Aquatic life	Habitat alteration Total Nitrogen Dissolved oxygen Boron Ammonia Total suspended solids DDT Dieldrin Methoxychlor Phosphorus	Channelization Crop production Municipal point sources Contaminated sediments Unknown sources
Spoon River (BPJD02 – 13.7 miles)	Aquatic life	Dissolved oxygen Habitat alteration	Crop production Channelization
Salt Fork River (BPJ09 – 13.8 miles, BPJ10 – 13.6 miles, and BPJ12 – 3.1 miles)	Aquatic life Public water supply	Ammonia Total Nitrogen pH Nitrate Total suspended solids Phosphorus	Crop production Municipal point sources Unknown sources

Figure 4. Salt Fork aquatic life impairments and potential sources of pollutants (Salt Fork Steering Committee 2007 and IEPA 2006).

Table 1. Summary of the Restoration Alternatives for restoring and rehabilitating the resources or equivalent resources that were injured and/or lost as a result of the release of hazardous substances from the Hegeler Zinc Facility, Vermilion River watershed, Illinois.

Project title	Subproject	Description	Benefits/Services	Project Location	Estimated Cost ⁵	Coordinating Agencies/ Groups	Preferred or Not-Preferred
Instream Restoration	A. Instream Habitat	Post Dam Removal Increase Available Instream Habitat	To be determined	Danville, IL	Unknown	Unknown	<i>Not-Preferred due to the extended timeline. A few years will need to pass to see how the river reacts to the dam removals before additional work should be completed.</i>
		install rock riffle grade control structures within the Salt Fork	Create a narrower channel, which will provide deep pool habitat, dissipate energy, and stabilize streambanks; thereby reducing nitrates and improving overall water quality. The rock structures will also provide refuge and interstitial spaces for insects, small fish and macroinvertebrates; increase aeration; and add substrate to the channel.	On the Salt Fork north of County Road 1200 North bridge at Homer Lake Forest Preserve	Estimate: \$12,000	IDNR and CCFPD	<i>Not-Preferred. Already good instream habitat in this location in the form of riffle structures.</i>
	B. Mussel Host Fish	Provide habitat for host fish to assist in mussel recruitment	Increase mussel populations	Unknown	Unknown	Potentially the Ohio River Basin Fish Habitat Partnership	<i>Not-Preferred - no specific projects suggested.</i>
Land Acquisition	C. Land Preservation	Preserving natural areas along the Salt Fork.	Provide secure, long-term habitat for fish, macroinvertebrates, and other wildlife, create habitat for various wildlife, absorb urban storm water and agricultural runoff and filter and recharge groundwater improving overall water quality, reduce sedimentation and contaminant inputs into the stream.	Champaign County	\$250,000+	IDNR, CCFPD, & matching fund sources	<i>Preferred. Collaboration with Champaign County Forest Preserve District & others on land acquisition or easement/lease agreement.</i>

⁵ The total estimated costs for all listed project alternatives exceed the NRDA restoration funds available; therefore, not all alternatives can be funded. Alternatives have been screened against factors listed under 43 CFR Subpart E 11.82 to identify preferred restoration alternatives. All costs are estimates and are subject to change during the final restoration planning phase.

Project title	Subproject	Description	Benefits/Services	Project Location	Estimated Cost	Coordinating Agencies/ Groups	Preferred or Not-Preferred
Water Quality Protection and Terrestrial Habitat	D. Managing Nutrients	Implement cover crops on 6,000 acres and/or develop nutrient management plans on 16,000 acres including leasing nitrogen side dress bars to farms on 10,000 acres in the watershed.	Cover crops have the potential to capture and retain up to 60% of fall applied nitrogen. The adoption of cover crops is an important management practice to limit the amount of nitrogen lost to ground and surface water through leaching. Nutrient management plans are needed to ensure the proper amount of nitrogen for crop growth is applied. The use of nitrogen side dress bars would help farmers optimize the use of nitrogen and limit the losses entering the surface waters of the watershed.	North Fork Vermilion River	Cover Crops = \$25/acre \$150,000; Nutrient Management Plans = \$240,000; other cost share assistance may be available through the VCSWCD Requested amount = \$316,000	IDNR, Vermilion Co Soil and Water Conservation District, and area farmers	<i>Not-Preferred; VCSCD/NRCS staff stated cover cropping efforts have not gained traction in the watershed. And since nutrient management plans including nitrogen side dress bars pertains mostly to nutrient reduction without the additional wildlife habitat improvement, other projects were ranked as higher priorities.</i>
	E. Shorebird Conservation Acreage via drainage water Runoff Control (SCARC)	Assist in a large scale multi-agency effort to add qualifying fields into the NRCS drainage water management program, provide an opportunity for longer term wetland habitat, and conduct research & monitoring	Provide water quality benefits by reducing nutrient runoff; provide habitat for wildlife, specifically migrating shorebirds and waterfowls	Champaign and Vermilion counties	\$100,000-\$200,000	IDNR, U of I, USFWS, NRCS, United States Department of Agriculture etc.	<i>Preferred. Collaboration with U of I & others to enroll additional fields into the DWM program and conduct restoration & monitoring.</i>
Lake Protection and Improvement	F. Lake Management-Dredge	Protect, preserve, and enhance existing lake water quality and the beneficial uses of the lake.	Beneficial uses include: cultural uses such as public water supply; fishing, boating, and other recreational uses; and environmental uses such as water quality and habitat for fish and other wildlife.	Homer Lake	Estimate: \$250,000+	IDNR & CCFPD	<i>Not-Preferred; likely too costly.</i>

Project title	Subproject	Description	Benefits/Services	Project Location	Estimated Cost	Coordinating Agencies/ Groups	Preferred or Not-Preferred
Ecological Restoration	G. Wetland creation, invasive species removal along stream corridor, and/or prairie/savanna restoration	Various ecological restoration options to restore, protect, and conserve natural resources along the Salt Fork river	Improve habitat for aquatic and terrestrial resources; absorb urban and agricultural runoff and filter/recharge groundwater, improving overall water quality, including reducing sedimentation and contaminant inputs into the stream.	Within Homer Lake Forest Preserve, Salt Fork	Estimate: \$50,000-\$250,000+	IDNR & CCFPD	<i>Preferred as a backup alternative to the land acquisition/restoration alternative previously described in coordination with the CCFPD.</i>
	H. Wetland invasive species control	Control invasive species (lotus) which is creating a monoculture in a wetland environment by	Restore the wetland to provide more plant diversity, which will increase wildlife habitat.	Heron Pond, North of Lake Vermilion	Unknown; Estimate: \$6,000	IDNR, VCCD	<i>Not-Preferred; no collaborative interest at this time; concern over constant seed coming in from the river, therefore likely limited return on investment.</i>
	I. Invasive species control and tree planting	Exotic and invasive species removal and periodic prescribed fire; open fields will be planted to trees and create larger blocks of forest	Restore high quality forest, savanna, & barrens communities, including invasive species control to reduce edge effects and increase habitat for interior breeding birds; Develop and manage wetland habitat to benefit amphibian species.	Dynegy Tract; Middlefork Nature Preserve; Woodyard State Natural Area	Total = \$113,520; requested amount = \$73,600	IDNR	<i>Not-Preferred, Already completed with State Wildlife Grant funds.</i>
	J. Establishment of prairie and wetland habitat	Mechanical removal of Osage Orange; chemically treat cool season grass fields and plant to prairie; build wetlands.	Convert 150 acres of old pasture to native prairie, providing habitat to area sensitive species, creating a “source” area for pheasants that would supply the surrounding private land with pheasants.	Jordan Creek Wildlife Preserve; North Fork Vermilion River, North of Alvin, IL	Total = \$117,660; requested amount = \$88,245	IDNR & VCCD Foundation	
	K. Community restoration	Restore and maintain 50 acres of dry-mesic oak woodland, 10 acres open woodland, 3 acres seep, 16 acre tree planting, and 20 acres of prairie.	Exotic/invasive species removal with periodic prescribed fire will help maintain various communities, and provide buffer habitat for the Middle Fork of the Vermilion River. Benefits include oak regeneration, water quality improvements, habitat for a variety of wildlife etc.	Kickapoo State Recreational Area – Dynegy Tract located northwest of Danville, IL.	Total = \$43,000; requested amount = \$21,500	IDNR	

Table 2. Restoration “factors to consider” (listed in no particular order).

Factor	Interpretation
▶ complies with applicable/relevant federal, state, local, and tribal laws, regulations, and policies (DOI 9 & 10)	▶ Project must be legal.
▶ protects public health and/or safety (DOI 8)	▶ Project does not jeopardize public health and/or safety.
▶ is coordinated with planned response actions (DOI 4)	▶ Project does not conflict with planned response actions and will not be undone or harmed by response actions.
▶ minimizes collateral injury (DOI 5)	<p>▶ Project does not cause additional natural resource injury, service loss, or environmental degradation; or collateral injuries that may be caused by the project are minimal compared to the benefits achieved. Projects that avoid collateral injury will be given priority.</p> <p>▶ Primary restoration projects will be evaluated in terms of whether they reduce exposure to hazardous substances and reduce the volume, mobility, and/or toxicity of hazardous substances. Projects may be ranked by degree of expected reductions of one or both of these factors.</p>
▶ is acceptable to the public	▶ Project meets a minimum level of public acceptance; project is not a public nuisance. Degree of public acceptance/support can also be used as a criterion following initial screen of projects.
▶ is technically feasible (DOI 1)	<p>▶ Project has a high likelihood of success. This factor will be evaluated in more depth for projects that are initially believed to be feasible.</p> <p>▶ reliable methods/technologies known to have a high probability of success will be considered</p> <p>▶ Projects incorporating experimental methods, research, or unproven technologies may be evaluated</p>
▶ restore, rehabilitate, and/or replace habitats of injured resources (including groundwater) and the services that the habitats provide. Acquiring the equivalent may also be a viable option.	<p>▶ Projects may be evaluated based on the degree to which they restore, rehabilitate, and/or replace habitat for injured resources. Habitat protection/restoration may be a preferred means of restoring injured resources.</p> <p>▶ May also include consideration of on-site resources and habitats.</p>
▶ Addressess in-kind habitat in the same watershed	▶ Trustees preference is to restore, rehabilitate, and/or replace in-kind habitat in the same watershed. Acquiring the equivalent may also be a viable option.
▶ provides benefits not being provided by other restoration projects being or having the potential of being planned/implemented/funded under other programs	▶ Preference is given to projects that are not already being implemented or have planned funding under other programs. Although the Trustees will make use of restoration planning efforts by other programs, preference is given to projects that would not otherwise be implemented without NRDA restoration funds.
▶ addresses/incorporates restoration of “preferred” trust resources or services	▶ Trustees will develop a list of priorities based on the resource types injured and degree of injury. Preference may be given to: specific habitats, species of special concern, living resources, native species, groundwater, etc.
▶ generates collateral benefits	<p>▶ Secondary or cascading benefits to ecological resources and economic benefits, including enhancing the public’s ability to use, enjoy, or benefit from the environment.</p> <p>▶ Projects that benefit more than one injured resource or service will be given priority.</p> <p>▶ Projects that benefit a single group or individual may be ranked lower.</p>
▶ provides long-term benefits	▶ Projects that will persist will be favored over short-term projects.
▶ may be scaled to appropriate level of resource injury or loss	▶ Project can be scaled to provide restoration of appropriate magnitude. Small projects that provide only minimal benefit relative to lost injuries/services, or overly large projects that cannot be appropriately reduced in scope are less favored.
▶ is consistent with regional planning	▶ Project is not inconsistent with regional planning (e.g., supportive of species recovery plans, etc.); project is administratively feasible.
▶ is cost effective (DOI 2 & 3)	<p>▶ Project has a high ratio of expected benefits to expected costs. This may be assessed as relative to other projects that benefit the same resource.</p> <p>▶ Also applies to costs of long-term operation, maintenance, and monitoring</p>
▶ provides benefits sooner (DOI 6 & 7)	▶ Project will achieve full expected results sooner than resource would achieve the result through natural recovery (and remediation); sooner than other projects that benefit the same resource. The sooner restoration is achieved, the better.
▶ targets a resource or service that is unable to recover to baseline without restoration action, or that will require a long time to recover naturally (e.g., >25 years) (DOI 6 & 7)	▶ Projects that target resources/services that will be slow to recover will be favored over projects that target resources/services that will soon recover naturally.

Table 3. Summary of Restoration Factors to Consider and the “screening” of the NRDA restoration project alternatives for restoring and rehabilitating the resources or equivalent resources that were injured and/or lost as a result of the release of hazardous substances from the Hegeler Zinc Facility, Vermilion River watershed, Illinois.

Factor	Instream habitat (A)	Mussel host fish (B)	Land preservation (C)	Managing nutrients (D)	Shorebird Conservation Acreage via drainage water Runoff Control (SCARC) (E)	Lake Management
Technically feasible	No	Unknown	Yes	Yes	Yes	Yes
Expected costs: expected benefits	Unknown	Unknown	Yes	No	Yes	Unknown
Cost-effective	Unknown	Unknown	Yes	Yes	Yes	No
Results of any actual or planned response actions	No	No	No	No	No	No
Potential for additional injury resulting from the proposed actions, including long term and indirect impacts, to the injured resources or other resources	Minimal	Minimal	Minimal	Minimal	Minimal	Minimal
Natural recovery period	Uncertain (25+years)	Uncertain (25+years)	Uncertain (25+years)	Uncertain (25+years)	Uncertain (25+years)	Uncertain (25+years)
Ability of the resources to recover with or without alternative actions	Restoration alternative would likely help resources to fully recover	Restoration alternative would likely help resources to fully recover	Restoration alternative would likely help resources to fully recover	Restoration alternative would likely help resources to fully recover	Restoration alternative would likely help resources to fully recover	Restoration alternative would likely help resources to fully recover
Potential effect of the action on human health and safety	Minimal	Minimal	Minimal	Minimal	Minimal	Minimal
Consistency with relevant Federal, State, and tribal laws	Yes	Yes	Yes	Yes	Yes	Yes
Addresses in-kind habitat in the same watershed	Yes	Yes	Yes	Yes	Yes	Yes
Provides benefits not being provided by other restoration projects being or having the potential of being planned/implemented/funded under other programs	Yes	Yes	Yes	Unknown	Yes	Yes
Addresses/incorporates restoration of “preferred” trust resources or services	Yes	Yes	Yes	Yes	Yes	Yes
Generates collateral benefits	Yes	Yes	Yes	Yes	Yes	Yes
Provides long-term benefits	Yes	Yes	Yes	Yes	Yes	Yes
May be scaled to appropriate level of resource injury or loss	Yes	Yes	Yes	Yes	Yes	Yes
Is consistent with regional planning	Yes	Yes	Yes	Yes	Yes	Yes
Provides benefits sooner	No	No	Yes	No	Yes	No
Targets a resource or service that is unable to recover to baseline without restoration action, or that will require a long time to recover naturally	No	No	No	No	No	No
Restore, rehabilitate, and/or replace habitats of injured resources (including groundwater) and the services that the habitats provide. Acquiring the equivalent may also be a viable option.	Yes	Yes	Yes	Yes	Yes	Yes
Is acceptable to the public	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable

Factor	Wetland creation, invasive species removal along stream corridor, and/or prairie/savanna restoration (G)	Wetland invasive species control (H)	Invasive species control and tree planting (I)	Establishment of prairie and wetland habitat (J)	Community restoration (K)
Technically feasible	Yes	Yes	Yes	Yes	Yes
Expected costs: expected benefits	Yes	Yes	Yes	Yes	Yes
Cost-effective	Yes	Yes	Yes	Yes	Yes
Results of any actual or planned response actions	No	No	No	No	No
Potential for additional injury resulting from the proposed actions, including long term and indirect impacts, to the injured resources or other resources	Minimal	Minimal	Minimal	Minimal	None
Natural recovery period	Uncertain (25+years)	Uncertain (25+years)	Uncertain (25+years)	Uncertain (25+years)	Uncertain (25+years)
Ability of the resources to recover with or without alternative actions	Restoration alternative would likely help resources to fully recover	Restoration alternative would likely help resources to fully recover	Restoration alternative would likely help resources to fully recover	Restoration alternative would likely help resources to fully recover	Restoration alternative would likely help resources to fully recover
Potential effect of the action on human health and safety	Minimal	Minimal	Minimal	Minimal	Minimal
Consistency with relevant Federal, State, and tribal laws	Yes	Yes	Yes	Yes	Yes
Addresses in-kind habitat in the same watershed	Yes	Yes	Yes	Yes	Yes
Provides benefits not being provided by other restoration projects being or having the potential of being planned/implemented/funded under other programs	Yes	No	No	No	No
Addresses/incorporates restoration of "preferred" trust resources or services	Yes	Yes	Yes	Yes	Yes
Generates collateral benefits	Yes	Yes	Yes	Yes	Yes
Provides long-term benefits	Yes	Yes	Yes	Yes	Yes
May be scaled to appropriate level of resource injury or loss	Yes	Yes	Yes	Yes	Yes
Is consistent with regional planning	Yes	Yes	Yes	Yes	Yes
Provides benefits sooner	Yes	Yes	Yes	Yes	Yes
Targets a resource or service that is unable to recover to baseline without restoration action, or that will require a long time to recover naturally	No	No	No	No	No
Restore, rehabilitate, and/or replace habitats of injured resources (including groundwater) and the services that the habitats provide. Acquiring the equivalent may also be a viable option.	Yes	Yes	Yes	Yes	Yes
Is acceptable to the public	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable

XV. Appendix I.

Laws, authorities, and guidance associated with NRDA and Natural Resource Injuries.

Overview

The major federal laws guiding the restoration of the injured resources and services are the Oil Pollution Act, the Comprehensive Environmental Response, Compensation, and Liability Act, the Clean Water Act, Natural Resource Damage Assessment, and the National Oil and Hazardous Substances Pollution Contingency Plan. Overall these statutes provide the basic framework for natural resource damage assessment and restoration. In addition, the State laws relevant for guiding the restoration of injured resources are the Illinois Environmental Protection Act (415 ILCS 5/1, et seq.), the Illinois Natural Areas Preservation Act (525 ILCS 30/1, et seq.), the Illinois Endangered Species Protection Act (520 ILCS 10/1, et seq.), the Interagency Wetland Policy Act of 1989 (20 ILCS 830/1-1, et seq.), the Comprehensive Environmental Review Process (CERP), and Rivers, Lakes, and Streams Act (615 ILCS 5/18). The Trustees must comply with other applicable laws, regulations and policies at the federal and state levels such as the Rivers and Harbors Act of 1899 (Sections 9 and 10).

Key Statutes, Regulations, Policies, and Guidance

There are a number of federal and state statutes, regulations, policies, and guidance that govern or are relevant to natural resource damage assessment and/or natural resource injury evaluations and associated restoration. The potentially relevant laws, regulations, policies, and guidance are set forth below.

Oil Pollution Act of 1990, 33 U.S.C. §§ 2701, et seq.

The Oil Pollution Act establishes a liability regime for oil spills that injure or are likely to injure natural resources and/or the services that those resources provide to the ecosystem or humans. Federal and state agencies and Indian tribes act as Trustees on behalf of the public to assess the injuries, scale restoration to compensate for those injuries, and implement restoration. The National Oceanic and Atmospheric Administration promulgated regulations for the conduct of natural resource damage assessments at 15 C.F.R. Part 990. Natural resource damage assessments are intended to provide the basis for restoring, replacing, rehabilitating, and acquiring the equivalent of injured natural resources and services. The Trustees' actions are substantially consistent with the regulations found at 15 C.F.R. Part 990.

Clean Water Act (Federal Water Pollution Control Act), 33 U.S.C. §§ 1251, et seq.

The Clean Water Act (CWA) is the principal law governing pollution control for water quality of the nation's waterways. Section 404 of the law authorizes a permit program for the disposal of dredged or fill material into navigable waters. The U.S. Army Corps of Engineers administers the program. In general, restoration projects that move significant amounts of material into or out of water or wetlands (e.g., hydrologic restoration of marshes) require Section 404 permits. Under Section 401 of the CWA, restoration projects that involve discharge or fill to wetlands or navigable waters must obtain certification of compliance with state water quality standards (section 401).

Comprehensive Environmental Response, Compensation and Liability Act, 42 U.S.C. §§ 9601, et seq.

This Act provides the basic legal framework for cleanup and restoration of the nation's hazardous-substances sites. Generally, parties responsible for contamination of sites and the current owners or operators of contaminated sites are liable for the cost of cleanup and restoration. CERCLA establishes a hazard ranking system for assessing the nation's contaminated sites with the most contaminated sites being placed on the National Priorities List.

Oil Spill Responders Liability Act, 740 ILCS 113/1, et seq.

This Act protects oil spill responders from liability for damages that may result from action taken or action omitted in the course of rendering assistance in an oil spill incident that is consistent with the National Contingency Plan. This protection does not apply to the responsible party, or entity which caused the oil spill incident. Under this Act, the responsible party is liable for removal costs and damages to natural resources resulting from a discharge or spill of oil of any kind or in any form, including but not limited to, petroleum, fuel oil, sludge and oil refuse.

Illinois Environmental Protection Act, 415 ILCS 5/1, et seq.

The Environmental Protection Act is the state law that prohibits most forms of pollution occurring on land, in water, or in the air. It also establishes a liability regime, including enforcement and penalties, for entities that violate the provisions of the Act. The Environmental Protection Act was developed for the purpose of establishing a unified state-wide program for environmental protection and cooperating with other states and with the United States in protecting the environment. It was also developed to restore, protect and enhance the quality of the environment and to assure that adverse effects upon the environment are fully considered and borne by those who cause them.

Illinois Natural Areas Preservation Act, 525 ILCS 30/1 et seq.

The Act serves to protect any area in Illinois that has been designated as a nature preserve, including the species of plants and animals in each habitat. Any endangered plant and animal species found in designated nature preserves are also protected under this Act. Dedicating and holding an area for natural preserves is also encouraged in this Act.

Illinois Endangered Species Protection Act, 520 ILCS 10/1 et seq.

This Act gives protection to any plant and animal species on the endangered or threatened list from being moved or destroyed. Any species that the Secretary of the Interior of the United States lists as endangered or threatened is also included on Illinois's endangered and threatened species list. The Act also provides rules of law for searching any premises suspected of illegally keeping goods, merchandise, or animals, plants, or animal or plant products subject to the Act and seizing such products.

Illinois Fish and Aquatic Life Code, 515 ILCS 5/5-5 et seq. and Illinois Wildlife Code, 520 ILCS 5/1.10 et seq.

These Codes state that IDNR shall take all measures necessary for the conservation, distribution, introduction and restoration of aquatic life and wildlife, and they provide protection for aquatic life and wildlife from any person who causes waste, sewage, thermal effluent, or any other pollutant to enter into the waters of the State or habitat supporting the wildlife, which causes the death of aquatic life or wildlife. The IDNR, acting through the IAGO, has the authority to bring action against such persons to recover the value of any and all aquatic life or wildlife that is destroyed, related costs in determining such value, and any other fines or penalties provided for by these Codes.

Illinois Herptiles-Herps Act, 510 ILCS 68

For purposes of this Act, reptiles and amphibians shall be exempt from the definition of "aquatic life" under Section 1-20 of the Fish and Aquatic Life Code. All rules and enforcement actions under the Illinois Conservation Law and the dangerous animals provisions in Section 48-10 of the Criminal Code of 2012 related to reptiles and amphibians shall be covered exclusively by this Act.

(Source: P.A. 98-752, eff. 1-1-15.)

Interagency Wetland Policy Act of 1989, 20 ILCS 830/1 et seq.

This Act states that state agencies are responsible for preserving, enhancing, and creating wetland areas for the purpose of increasing quality and quantity of the State's wetland resource base. The goal behind the Act is that there shall be no overall net loss of the State's existing wetland acres or their functional value due to State supported activities.

Rivers, Lakes, and Streams Act 615 ILCS 5/18

No person is allowed to fill or deposit rock, earth, sand, or other material, or any refuse matter of any kind or description or build or commence the building of any wharf, pier, dolphin, boom, weir, breakwater, bulkhead, jetty, causeway, harbor, or mooring facilities for watercraft, or any other structure, with the exception of duck

blinds, in public a water body of the State without first submitting plans, data, and other important information to the Department of Natural Resources of the State and receiving a permit signed by the Director of the Department. Under this act, no person is allowed to build, deposit, or discharge any materials into Lake Michigan unless the Illinois Environmental Protection Agency permits one to do so under subsection (a) of section 39 of the Environmental Protection Act.

Rivers and Harbors Act of 1899, Sections 9 and 10

9. It is unlawful to build any structure in or across waters of the United States until plans are submitted and approved by Secretary of Transportation, Chief of Engineers, and Secretary of Army and consent is given by Congress. Under permission of the legislation of the State, a person may build in or across waters whose navigable parts lie wholly in that state. The approval required by this section of the location and plans or any modification of plans of any bridge or causeway does not apply to any bridge or causeway over waters that are not subject to the ebb and flow of the tide and that are not used and are not susceptible to use in their natural condition or by reasonable improvement as a means to transport interstate or foreign commerce.

10. It is unlawful to build obstacles that prohibit navigation, unless authorized by Congress, and building of any structure outside harbor lines or where no harbor lines have been established is prohibited unless authorized by Chief of Engineers and Secretary of War. It is also unlawful to fill or modify any plan or structure within limits of breakwaters or the channel of any navigable waters of the United States unless approved by Chief of Engineers and Secretary of War.

43 CFR Part 11 – Natural Resource Damage Assessment

CERCLA and CWA provide that natural resource trustees may assess damages to natural resources resulting from a discharge of oil or a release of hazardous substance covered under CERCLA and/or CWA. Trustees may seek to recover those damages and under National Oil and Hazardous Substances Pollution Contingency Plan (NCP) trustees can seek compensation for injuries to natural resources that may not be addressed by response actions of NCP.

40 CFR part 300.605 – National Oil and Hazardous Substances Pollution Contingency Plan

State trustees shall act on behalf of the public as trustees for natural resources, including their supporting ecosystems, within the boundary of a state or belonging to, managed by, controlled by, or appertaining to such state. The governor of a state is encouraged to designate a state lead trustee to coordinate all state trustee responsibilities with other trustee agencies. The state lead trustee should have ready access to appropriate state officials with environmental protection, emergency response, and natural resource responsibilities. The EPA Administrator or USCG Commandant or their designees may appoint the state lead trustee as a member of the Area Committee. Response strategies should be coordinated between the state and other trustees for specific natural resource locations in an inland or coastal zone and should be included in the Fish and Wildlife and Sensitive Environments Plan annex of the ACP.

15 CFR Part 990 – Natural Resource Damage Assessment

The Oil Pollution Act of 1990 (OPA) provides the designation of federal, state, and, if designated by the Governor of the state, local officials to act on behalf of the public as trustees for natural resources and for the designation of Indian tribe and foreign officials to act as trustees for natural resources on behalf of, respectively, the tribe or its members and the foreign government. This part may be used by these officials in conducting natural resource damage assessments when natural resources and/or services are injured as a result of an incident involving an actual or substantial threat of a discharge of oil. This part is not intended to affect the recoverability of natural resource damages when recoveries are sought other than in accordance with this part.